MEDICAL REVIEW

A Weekly Journal of Medicine and Surgery

VOL. XL, No. 18
WHOLE No. 949

ST. LOUIS, MO., NOVEMBER 4, 1899

YEARLY SUBSCRIPTION, $1.00
SINGLE COPIES, FIVE CENTS

Original Articles

A PLEA FOR THE TREATMENT OF TYPHOID FEVER BY COLD BATHS.*

BY CHARLES SHATTINGER, M.D.

Professor of Physiology in the Beaumont Hospital Medical College.

MISCONCEPTIONS in regard to what constitutes the treatment which it is the object of this paper to promulgate are still so common that it will not be amiss to begin with a brief description of its correct application. A tub large enough to permit lying in it at full length is placed near the bed-side of the patient. His face having been sponged with cold water, he is helped into the tub, previously filled with water at 65° F. (18° C.), and submerged to the neck. The attendants immediately set to rubbing the entire body of the patient, who assists with advantage, if able. This chafing is all-important; though done without roughness, it must be thoroughly and continuously applied as long as the patient remains in the water.

Towards the middle and end of the bath, from two to three quarts of water at 50° F. (10° C.) are poured over the back of the head, neck and shoulders of the patient. This part of the proceeding is not absolutely essential when nervous symptoms are slight. If omitted, cold compresses must be placed on the patient's head and diligently renewed. At the expiration of fifteen minutes the patient leaves the bath. On the bed has been arranged a blanket over-laid by a sheet, preferably linen, in which he is wrapped, briskly dried, and warming-bottles placed against the feet. A cold compress covered with dry flannel may now be applied to the abdomen. It is decidedly useful to combat meteorism or diarrhea, but may be dispensed with in the absence of marked intestinal phenomena.

As long as the rectal temperature reaches 39° C. (102.2° F.) such a bath is given every three hours, day and night. Very high temperatures or a reduction of less than 1° C. (1.8° F.) forty-five minutes after bathing require a prolongation of the baths to twenty minutes. When the rectal temperature no longer attains 39° C. (102.2° F.), but still reaches 38.5° C. (101.3° F.), such exacerbations are met by baths at 68° F. (20° C.) lasting five minutes. After the rectal temperature remains below 38.5° C. (101.3° F.) the baths are discontinued. Relapses are treated precisely like the original attack. Stimulants may be given before or after the baths. Constipation is relieved by cold enemata. No medicines are administered.

Deviations from the regular plan will hardly ever be indicated, except in children and advanced cases. The former, by reason of the relatively larger surface area of their bodies, do not require baths of as long duration or as low a temperature as adults. To subject a patient coming under treatment late in the disease, with a weak heart and feeble peripheral circulation, to an inflexible routine of cold bathing would probably prove homicidal. Here warmer and shorter baths, graduated baths, tepid baths with cold affusion, wet packs, perhaps merely ablutions, will have to be substituted according to the reactive capacity of the individual. Cyanosis of the face or syncope occurring during a bath demands its cessation, but not necessarily discontinuance of the treatment. The only absolute contraindications are edema of the glottis, pericarditis, perforation, peritonitis, severe intestinal hemorrhage and collapse.

This is the treatment for typhoid fever originated by Ernst Brand in 1861 and perfected by his followers—a simple yet definite therapeutic procedure, sharply distinguished from all arbitrary modifications of its formula by unequivocal directions and superior results. Largely employed in Germany, where it enjoys the official commendation of the Prussian War Department, counting numerous adherents in France, at last gaining ground in the United States, the treatment now has the support of many eminent clinicians. Omitting the encomiums of enthusiastic disciples, I cite only the opinions of a few conservative observers.

Wm. Pepper, in a discussion of a paper before the Association of American Physicians, testified to his progressive conversion to belief in the treatment, and the desirability of its use in the vast majority of cases of typhoid as a routine practice.

Horatio C. Wood* says in regard to Brand's treatment: "I have no doubt that very many persons have died in the United States of typhoid fever whose

*Written by special request of numerous friends for the MEDICAL REVIEW.

*Wood: Therapeutics, 8th ed., 1892.

lives would have been saved if the American medical profession had risen above the opposition of the laity and above its own prejudice."

H. A. Hare* makes this emphatic statement: "Cold bathing is a power for good, before which every other measure must stand aside."

Wm. Osler† considers the treatment "scarcely feasible in private practice:" but suggests that "in institutions a rigid system of hydrotherapy should be carried out." He says: "For the fever and its concomitants there is no treatment so efficacious as that by cold water introduced at the end of the last century by Currie of Liverpool, and of late years forced upon the profession by Brand of Stettin."

Leibermeister‡ speaks in the following enthusiastic words: "Even in private practice the patients and their friends are soon convinced of the benefits derived from this method, and there is then no further opposition to its use. . . . The attendants do their part gladly, although the taking of temperatures and giving of baths add immensely to their labor, because the good results are so manifest and because many of the annoyances of former times are for the most part done away with. . . . Finally, the physician takes a very different degree of comfort and pleasure in his calling and feels much more certain of his results. In fact, typhoid fever has lost a great part of its terrors."

Eulenburg§ says: "The so-called antipyretic method (cold water treatment), one of the most important enrichments of modern therapy, meets manifold indications. It was introduced by Brand and systematically developed by Jürgensen, von Ziemssen, von Liebermeister and numerous other clinicians. Clinically its success is shown by lower mortality and indubitable diminution of numerous grave phenomena. . . . The extraordinary progress which has been made in the treatment of febrile diseases, solely through our acquaintance with this method, in contrast with the formerly prevalent, purely symptomatic treatment cannot be estimated high enough."

Strümpell‖ writes: "There is at present no other single method of treating typhoid fever which has so numerous and evident advantages for the patient. To carry it out in private practice may often be more difficult than in a well-appointed hospital. However, in private houses it will generally be possible to manage it, and we regard it as the duty of every physician who undertakes to treat a severe case of typhoid to try his best to have the baths employed."

*Hare: Fever; its Path. and Treatm. by Antipyretics; Boylston Prize Essay, 1891.

†Osler: Princ. and Pract. of Med., 1892.

‡Liebermeister, in Ziemssen's Ency.; see also Path. and Treatm. of the Infect. Dis.

§Eulenburg: Real Ency. d. ges. Heilk., 3d ed., 1893; Vol. I.

‖Strümpell: Text-Book of Med., 2d ed., 1885.

The reduction of mortality effected by the treatment of typhoid fever by cold baths has been demonstrated by a collection of statistics of such magnitude as to stand unrivaled in the history of medicine. It is not my intention to introduce dull tables and long figures, but to solicit instead an inspection of some diagrams which graphically illustrate this phase of my subject.

The shaded lines on the diagrams indicate the number of cases, while the solid black lines show the respective mortality per cent. As space did not permit adopting the same scale throughout, nor of superimposing all the lines in an unbroken series, the lines of any one of the seven groups are comparable with each other by measurement, but not always directly so with lines belonging to another group. Should such comparisons be desired, they may readily be obtained by means of the explanatory figures. In preparing the diagrams, I proceeded with the utmost exactitude attainable—stating the source of my information in every instance, taking no liberties with figures, and nowhere conceding the least favor to Brand's treatment; preferring a less striking demonstration to any straining of the truth.

The mortality in St. Louis as given at the head of group II. represents the proportion of reported deaths from typhoid to the number of reported cases of that disease. Because of negligence in reporting cases which recover, the percentage of deaths has in all likelihood been overestimated. Discount this percentage by one-half, if you will, the mortality remains high enough to bid the profession of our city pause in contemplation of the combined effect of each member's favorite treatment contrasted with the results achieved by cold baths.

The favorable statistics of treatment by intestinal antisepsis as shown in group I. suggests the propriety, perhaps, of retaining such therapeusis in connection with the hydratic method. For the sake of completeness and impartiality, the results claimed by Dr. Woodbridge for his antiseptic-eliminative treatment have also been exhibited in group I. These results are so novel and so brilliant, that one may well be pardoned the wish to subject them to a judicial scrutiny. The published records, however, present only a statement of totals, some temperature charts, and a collection of excerpts from eulogistic letters. Their convincing force is not to be compared to that residing in the statistics of Brand's treatment, gathered for the most part under rigid hospital control, substantiated by opposition and standing unrefuted the test of time. But even if the results claimed for the Woodbridge method be conceded, they are still only a little more than half as good as the most favorable achievements of the treatment by cold baths. Further remarks regarding my statistical presentation of the subject may be dispensed with, since the diagrams which are before you tell their own story. Clearly

Table I.—Treatment by Cold Baths. (Not always strictly according to Brand.)

Mortality Per Cent.	Treatment.	No. of Cases.	Reporter.	Source.	References.
14.9	Cold baths	94	Baelz	Osaka (Japan) Hosp. for Infective Diseases.	Ann. of Univ. Med. Sciences, 1888, Vol. I., p. 270.
9.4	"Tub baths"; in 58 severe cases, also sponge baths	105	Thornley	N. Y. Presbyterian Hospital	Med. News, March 13, 1897.
8.6	Strict cold baths	35	Alexander	Prof. Biermer's Clinic in Breslau.	Bresl. Aertzl. Zeitschr., 1887, Nos. 20-24.
8.4	Strict cold baths	426	Vogl	Munich Garrison Hospitals	Muench. Med. Wochen., 1893.
7.5	Cold baths	1,902	Hare	Brisbane Hospital	Intercol. Med. Jour. of Australia, March 20, 1897.
7.5	Cold baths	411	Davezac	Lyons Red Cross Hosp. for 6 yrs.	Jour. de Méd. de Bordeaux, January 8, 1888.
7.1	Cold baths	42	Juhel-Rénoy	Hospital Practice	Trans. Soc. Méd. des Hôp., January 27, 1888.
6.9	Strict cold baths in severe cases	376	Bouveret and Teissier	Lyons Hospital, 1882-1887	Quoted by Baruch in "Uses of Water in Modern Medicine."
6.9	Strict cold baths	145	Naunyn	Koenigsberg Clinic	Quoted by Baruch in "Uses of Water in Modern Medicine."
6.7	Baths at 70° F	299	Osler	Johns Hopkins Hospital for 6 yrs., ending May 15, 1895	Med. News, October 12, 1896.
5.6	Cold baths	54	Sihler	Private Practice	Hydratic Treatm. of Typhoid. Fever.
5.5	Cold baths	36	Vigur		Discuss. in Med. Soc. at Lyons.
5.3	Cold baths	38	Richeau		Discuss. in Med. Soc. at Lyons.
5.3	Strict cold baths	226	Wilson	German Hosp., Phil., Feb. 1, 1890, to June 1, 1892	Med. News, November 26, 1892.
5.1	Cold baths	6,185	Drochon	Paris Hospitals	Le Poitou Méd., August 1, 1888.
5.1	Cold baths	39	Wilkins and Stewart		Med. News, May 28, 1892.
5.1	Cold water, mostly by bath, but not strict method	39	Ellett		Med. News, December 12, 1891.
4.9	Cold baths	61	Bouveret	Lyons Red Cross Hospital	Lyon Méd., June 12, 1888.
4.6	Cold baths	108	Rénoy & Richard		Reports to Soc. Méd. des Hôp.
4.5	Cold baths; turpentine, some naphthol or salol	22	Shattinger	Private Practice since Oct., 1892	
3.7	Baths at 68° F	81	Devic		Lyon Méd., August 17, 1891.
3.4	Cold baths	58	Wilson	Pennsylvania Hospital	Med. News, November 30, 1895.
3	Strict cold baths	569	Vogl	Munich Garrison Hosp., 1882-87	Deutsch. Archiv. f. klin. Med., Vol. 43 and 44.
3	Strict cold baths	100	Bouveret	Lyons Red Cross Hosp., 1891	Lyon Méd., April 16 and May 3, 1891.
2.8	Cold baths	36	Josias	During 1888 and 1889	Reports to Soc. Méd. des Hôp.
2.6	Cold baths (by 12 strong advocates)	39	Juhel-Rénoy		La Sem. Méd., June 22, 1892.
2	Cold baths	49	Lyonnet and Chatin		Lyon Méd., December 7, 1890.
2	Cold baths	100	Bouveret	Hôtel Dieu, 1892	
1.9	Cold baths	157	Smythe		Rep. to Miss. Valley Med. Soc., September 15, 1883.
0	Cold baths; one or two initial doses of calomel	61	Borning		Physician and Surgeon, Dec., 1889.
0	Cold baths	9	Rabinovitch		N.Y.Med.Jour., March 19, 1891.
5.7	Total	11,902			

they all bear witness to the one fact—the lowered death rate of typhoid fever when treated by cold baths. Eloquent as this fact may be, it is not because of it alone that this method appeals to you for adoption. Its superiority can also be shown on physiologic grounds and by experience gained at the bed-side.

To destroy the specific cause of typhoid fever, antidote its toxins or abort the course of the disease, are aims universally acknowledged impossible to achieve by such resources as we possess to-day. We are still obliged to content ourselves with preventing and combating dangerous conditions. How well this is accomplished by Brand's treatment appears on analysis of the effects produced on the manifestations and complications of the morbid process as well as on thermolysis, circulation, innervation, metabolism and excretions of the diseased organism.

The cold bath lessens the fever by one to three degrees; more in light than in severe cases. During the early stages the reduction of temperature is somewhat less than during the later. It does not begin until the bath has been quitted, continues for one and a half to two hours, after which the temperature again rises and may reach, during the first days of treatment, its

TABLE II.—TREATMENT BY INTESTINAL ANTISEPSIS.

MORTALITY PER CENT.	TREATMENT.	NO. OF CASES.	REPORTER.	REFERENCES.
10.5	Salol, 5 grs. every 3 hrs.	38	Fussell	Univ. Med. Mag., 1891, p. 496.
10.4	Salol, naphthol, phenacetine; cold sponging.	676	Mason, 1890-'91 Bost. City Hos.	Boston Med. and Surg. Jour., April 7, and 14, 1892.
8.6	Naphthalin	35	Goetze	Zeitschr. f. klin. Med., 1885.
8.3	Silver nitrate	36	Arnaudet	Gaillard's Med. Jour., LXVIII., p. 169.
8.2	Naphthalin, antipyretics, and cold sponging	98	Wolff	Med. News, May 23, 1891.
6.7	Naphthol, bism. salicyl.; cold rect. injections	15	Teissier	Gaz. Méd. de Paris, Aug. 16, 1890.
6.1	Salol	49	Posajnyi	Bolnitchnaja Gazeta Botkina, Nos. 28 and 29, 1892.
5.6	Corrosive sublimate, 1/20 gr., 3 times daily	36	Axtell	Denver Med. Times, August, 1890.
5.6	2/3 per cent. sol. chloroform, and some quinin	18	Stepp	Muench. Med. Wochenschr., No. 45, 1890.
4.3	Thymol and bismuth salicylate	47	Wible	Pittsburgh Med. Rev., March, 1893.
4.3	Carbolic acid	23	Thacker	Ind. Med. Rec., July 1, 1897.
4.3	Iodine and carbolic acid	16	Tarbox	Med Rec., Aug. 24, 1889.
3.8	Boric acid	240	Tortchinsky	Bolnitchnaja Gazeta Botkina, No. 48, 1892.
3.2	One per cent. solution of chloroform	126	Werner	St. Petersburg Med. Woch., Jan. 18, 1892.
3.2	Naphthol and magnesium sulphate	63	Herouët	Gaz. Méd. de Nantes, Feb. 12, 1892.
2.9	Frequent ½-gr. doses of calomel	172	Thistle	Jour. Med. Germ. Ass'n., May 23, 1896.
1	Calomel, guaiacol, and intestinal lavage	100	Cormick	Jour. Am. Med. Ass'n., July 10, 1897.
0	Zinc sulphocarbolate	100	Waugh	Times and Register, June 13, 1891.
0	Salol and bism. subiodid	26	Farrar	Med. News, Jan. 16, 1892.
0	Corrosive sublimate, 1/64 gr., 4 times daily	21	Loranchet	Gaz. Hebd. de Méd. et de Chir., Feb. 18, '93.
0	Salol, 3 grs., every 2 hours	16	Cahall	Med. News, Nov. 8, 1890.
6.2	Total	1,951		

initial degree or even a few tenths more. Afterwards, however, the temperature no longer attains the same height, a gradual lowering of the daily average being obtained which justifies considering the cold bath a truly antifebrile measure.

The fall of temperature caused by the cold bath is due to vaso-motor action. The thermic excitation of the water, assisted by the mechanic stimulus of friction, evokes a reflex dilatation of the vast expanse of cutaneous capillaries. The blood thus abundantly brought to the surface loses its heat by conduction and returns to cool the deeper structures. After the bath, reaction sets in, and with it active dilation of all superficial vessels ensues, to which is added (according to Weyrich) an increase of 60 per cent. in cutaneous transpiration. The cold bath thus brings into play the most powerful of the factors concerned in the regulation of animal heat, viz.: dissipation by the skin through conduction, radiation and evaporation, estimated by Helmholtz to contribute 77.5 per cent. of the total amount of heat lost by the body. It is highly important to understand that these effects can not be realized without a correct application of the bath; using water that is not too cold and unremitting friction of the patient.

Beneficial as the reduction of fever may be, it is nevertheless but a secondary object of Brand's treatment, and those who resort to the cold bath merely as an antipyretic sadly fail to appreciate its true power. Its greatest merit is its influence on the nervous system. The repeated stimulation of the periphery rouses the energies of brain and cord. Insomnia, delirium or sopor does not occur, or vanish if present. The centers which preside over innervation of the heart and blood-vessels likewise respond to the impulses received during bathing. An efficient cardiac systole as well as adequate vascular tension are thereby maintained. The pulse, though small to the finger while the bath is making the artery contract, soon afterwards shows itself firm and steady, fifteen to twenty beats less frequent, and free from dicrotism.

Increase of the organic combustions has been alleged as an objection to Brand's treatment. The experiments of Röhrig and Zuntz, Pflüger, Frédericq and Quinquaud, showed that cold augments both the production of carbon dioxide and the consumption of oxygen. Speck and Loewy, however, demonstrate that this did not result in the absence of muscular action, and Colosanti observed that the usual reaction failed in pyrexia. The point is therefore still unsettled. But even if the baths did enhance metabolism, this could only mean heightened resistance to and more active warfare on the morbific agent, provided the tissues were thereby not too wastefully consumed. That this is not the case, clinical experience amply proves. The patient certainly does not lose flesh more markedly than under any other treatment, retains his strength better, and makes a speedier convalescence. This is partly owing, no doubt, to the possibility of nourishing more freely; for the appetite remains excellent, food being actually craved and relished after each bath. It may be semi-solid and is well assimilated. In connection with the influence of cold baths on metabolism, may be mentioned their effects on the

urine. The total quantity of this excretion is considerably augmented; it becomes less acid, sometimes even neutral or alkaline. According to Fuerbringer, the proportion of combined or ethereal sulphates is diminished, pointing to an increase of the biliary secretion, which again would depend on greater activity of the liver. Sassetzky found a lessened amount of nitrogenous constituents and phosphates—a flat contradiction of the assumption of increased tissue waste. Finally, the researches of Roque and Weill, as well as West, on the urotoxic co-efficient in typhoid fever, show that cold baths induce a more thorough and rapid removal of noxious material by the urine.

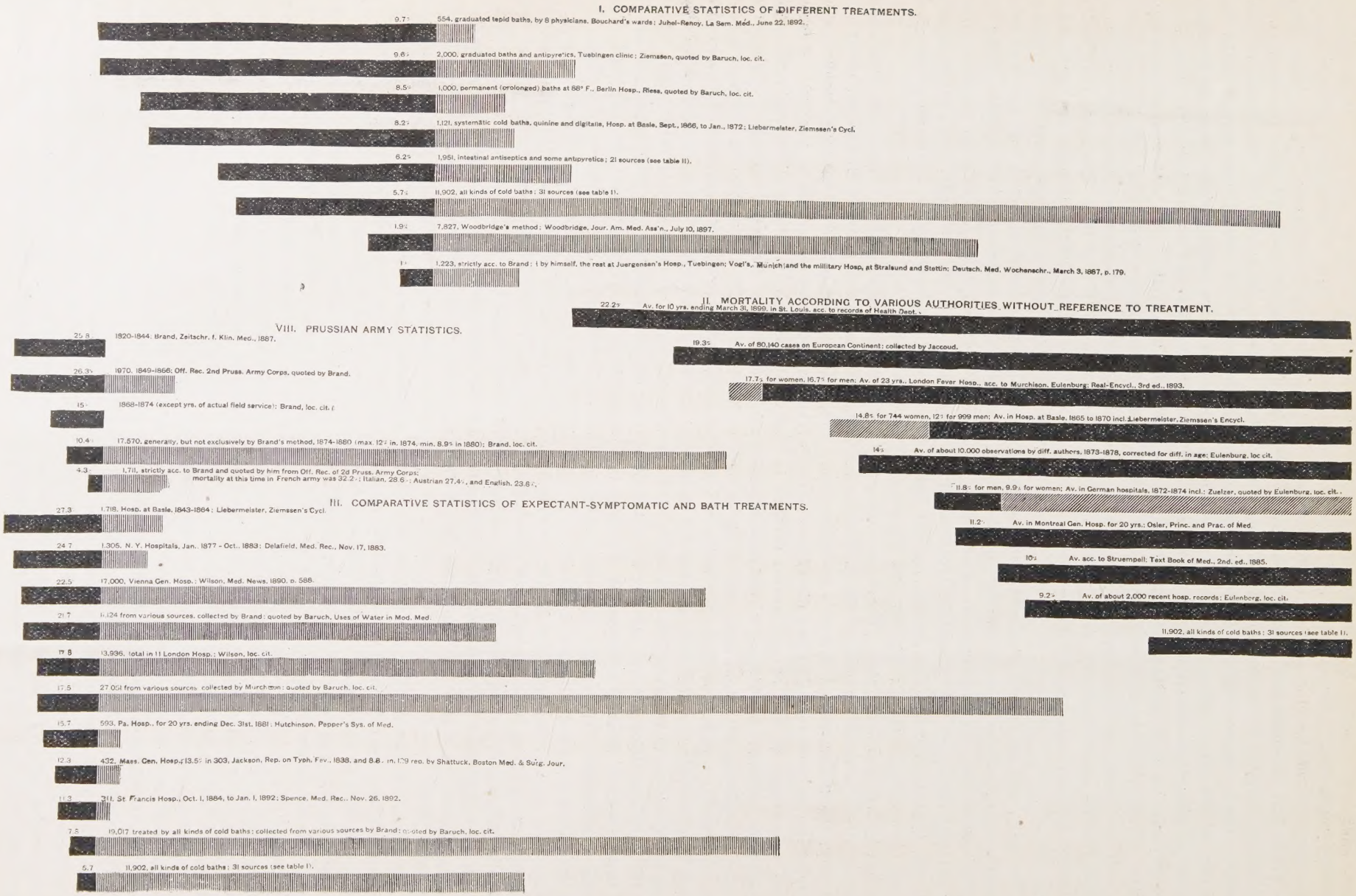
The laity, and no few of the profession, fear that thoracic complications may be caused by the cold baths. Quite the contrary obtains. Respiration is slowed and deepened, the attendant bronchitis improved; hypostatic congestion averted, or fast dissipated, if already existing; pleurisy and pneumonia rendered rarer and less fatal. The same favorable statement can be made in regard to the digestive tract. The dry, cracked and coated tongue is no longer seen. Tympanites is controlled, diarrhea diminished, intestinal hemorrhage as well as perforation reduced in frequency. Indeed, the autopsies of two cases treated from the beginning with cold baths and dying on the twenty-first day supplied no data from which to conclude that the alteration of Peyer's patches had at any time proceeded beyond the stage of infiltration.

The only imputation which it has ever been possible to sustain against Brand's treatment is a trifling increase of relapses. Such an objection becomes trivial in the face of the greatly lowered mortality. All the benefits to be derived from the treatment may be summed up by saying with Brand, that of the classical picture of typhoid, nothing remains but a moderate fever, an insignificant bronchial catarrh, the roseola, enlargement of the spleen and infiltration of the intestinal follicles.

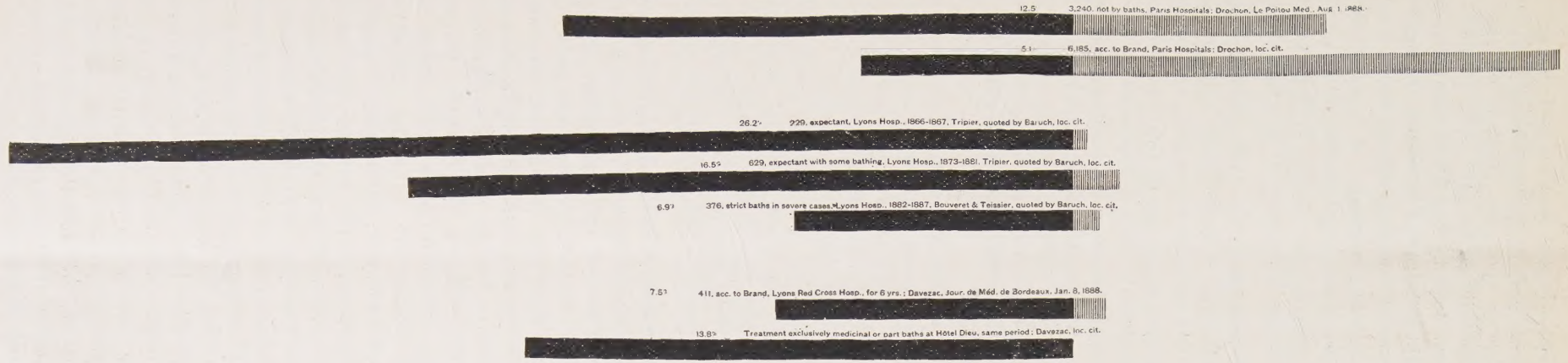
After so much testimony in favor of the treatment of typhoid fever by cold baths, what shall be said to those who shrink from urging it upon their patients, covering their inertia with the flimsy excuse that it is not practicable in private practice? It is practicable! Nothing is required but the courage of conviction. Since October, 1892, I have treated twenty-two private cases of typhoid and six of remittent fever by cold bathing. Consent was obtained in all but two instances after a patient explanation of the nature of the method and of the chances for recovery which it promises. Confidence was soon wholly secured; the good effects being too obvious to escape even the less intelligent. The only concessions made were two. In order to prevent remonstrance on the patient's part from causing the treatment to be abandoned before the family had been fully convinced of its merits, I began with baths at 80° F. (26.6° C.). Each day the water was taken three to five degrees colder, so as to arrive at the proper temperature in a very short time. This practice would seem to have the sanction of Brand himself. In a letter to Dr. Baruch of New York he says: "I always use warmer baths for twenty-four hours, usually of the room temperature, if the patient has been ill over four days; often, also, from the beginning." My own modest experience leads me to believe that 70° F. (21.1° C.) is cold enough for nearly all cases and can be more easily enforced than 65° F. (18° C.). The other modification which I permitted myself to make was unavoidable from the fact that the circumstances of my patients generally did not admit of having sufficient attendants to carry out the treatment uninterruptedly during the entire twenty-four hours. I therefore usually omitted bathing between 11 P.M. and 7 A.M., except during the acme of the disease, when a bath was always given between 2 and 3 A.M.

I was abundantly able to corroborate everything that has been said in praise of Brand's treatment, and not a few of the patients themselves became proselytes, to whom new cases could be referred. A better acquaintance with the potency of the cold bath taught me to discard as useless the drugs I employed in earlier cases; but I still adhere to an initial dose of calomel, a grain or two of naphthol (beta) every three hours, and drop doses of turpentine during the stage when the intestinal lesions are at their height. Antipyretics are unnecessary; their continued use is opposed in principle to Brand's treatment and inimical to its full success. That but one of my cases died is a fact which I will pass over without comment, in view of their small number, although there were four among them entitled to be qualified as severe. One of the patients had a pre-existing valvular lesion; another case was complicated with acute nephritis; a third with septic infection, and a fourth with very severe, protracted hemorrhages which caused great prostration. The one death carried away a mother who had been used up by the faithful nursing of her two boys through a siege of the same disease. She had been a sufferer from attacks of pseudo-angina pectoris, probably due to fatty changes in the heart, and was exceedingly obese. The experience that very fat persons do not properly respond to the cold-bath treatment was corroborated in this case.

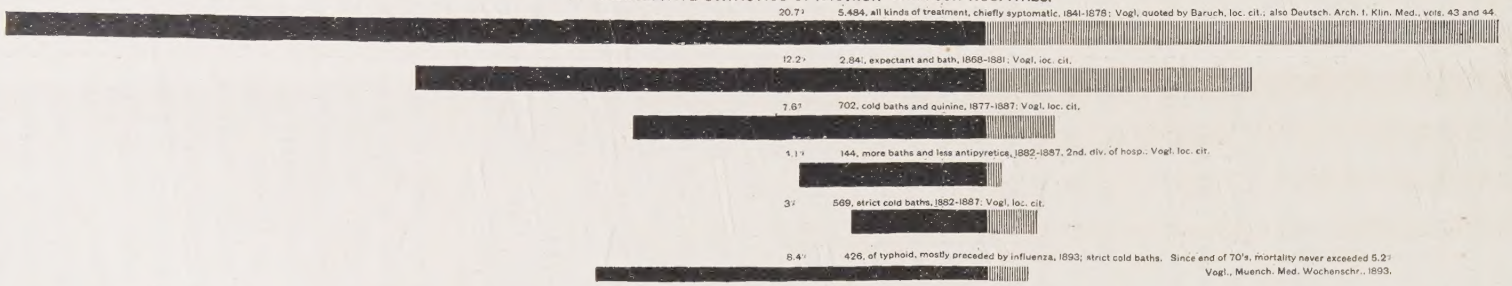
Here is a treatment endorsed by trustworthy teachers, upheld by physiology, tested by experience, and declared peerless by statistics. No stronger appeal could be made to judgment and to conscience. How long is it to remain unheeded? Shall the typhoid patient continue to be lulled into delusive ease with antipyretics, beguiled with an impossible antisepsis, experimented upon with every new specific, or, worst of all, abandoned to an idle and impotent expectancy?


I. COMPARATIVE STATISTICS OF DIFFERENT TREATMENTS.
9.7% 554, graduated tepid baths, by 8 physicians, Bouchard's wards; Juhel-Renoy, La Sem. Méd., June 22, 1892.
9.6% 2,000, graduated baths and antipyretics, Tuebingen clinic; Ziemssen, quoted by Baruch, loc. cit.
8.5% 1,000, permanent (prolonged) baths at 88° F., Berlin Hosp., Riess, quoted by Baruch, loc. cit.
8.2% 1,121, systematic cold baths, quinine and digitalis, Hosp. at Basle, Sept., 1866, to Jan., 1872; Liebermeister, Ziemssen's Cycl.
6.2% 1,951, intestinal antiseptics and some antipyretics; 21 sources (see table II).
5.7% 11,902, all kinds of cold baths; 31 sources (see table I).
1.9% 7,827, Woodbridge's method; Woodbridge, Jour. Am. Med. Ass'n., July 10, 1897.
1% 1,223, strictly acc. to Brand; 1 by himself, the rest at Juergensen's Hosp., Tuebingen; Vogt's, Munich and the military Hosp. at Stralsund and Stettin; Deutsch. Med. Wochenschr., March 3, 1887, p. 179.
II. MORTALITY ACCORDING TO VARIOUS AUTHORITIES WITHOUT REFERENCE TO TREATMENT.
22.2% Av. for 10 yrs. ending March 31, 1899, in St. Louis, acc. to records of Health Dept.
19.3% Av. of 80,140 cases on European Continent; collected by Jaccoud.
17.7% for women, 16.7% for men; Av. of 23 yrs., London Fever Hosp., acc. to Murchison, Eulenburg; Real-Encycl., 3rd ed., 1893.
14.8% for 744 women, 12% for 999 men; Av. in Hosp. at Basle, 1865 to 1870 incl.; Liebermeister, Ziemssen's Encycl.
14% Av. of about 10,000 observations by diff. authors, 1873-1878, corrected for diff. in age; Eulenburg, loc cit.
11.8% for men, 9.9% for women; Av. in German hospitals, 1872-1874 incl.; Zuelzer, quoted by Eulenburg, loc. cit.
11.2% Av. in Montreal Gen. Hosp. for 20 yrs.; Osler, Princ. and Prac. of Med.
10% Av. acc. to Struempell; Text Book of Med., 2nd. ed., 1885.
9.2% Av. of about 2,000 recent hosp. records; Eulenborg, loc. cit.
11,902, all kinds of cold baths; 31 sources (see table I).
VIII. PRUSSIAN ARMY STATISTICS.
25.8 1820-1844. Brand, Zeitschr. f. Klin. Med., 1887.
26.3% 1970, 1849-1866; Off. Rec. 2nd Pruss. Army Corps, quoted by Brand.
15% 1868-1874 (except yrs. of actual field service); Brand, loc. cit. f
10.4% 17,570, generally, but not exclusively by Brand's method, 1874-1880 (max. 12% in 1874, min. 8.9% in 1880); Brand, loc. cit.
4.3% 1,711, strictly acc. to Brand and quoted by him from Off. Rec. of 2d Pruss. Army Corps; mortality at this time in French army was 32.2%; Italian, 28.6%; Austrian 27.4%, and English, 23.6%.
III. COMPARATIVE STATISTICS OF EXPECTANT-SYMPTOMATIC AND BATH TREATMENTS.
27.3 1,718, Hosp. at Basle, 1843-1864; Liebermeister, Ziemssen's Cycl.
24.7 1,305, N. Y. Hospitals, Jan. 1877 - Oct., 1883; Delafield, Med. Rec., Nov. 17, 1883.
22.5 17,000, Vienna Gen. Hosp.; Wilson, Med. News, 1890, p. 588.
21.7 11,124 from various sources, collected by Brand; quoted by Baruch, Uses of Water in Med. Med.
17.8 13,936, total in 11 London Hosp.; Wilson, loc. cit.
17.5 27,051 from various sources collected by Murchison; quoted by Baruch, loc. cit.
15.7 593, Pa. Hosp., for 20 yrs. ending Dec. 31st, 1881; Hutchinson, Pepper's Sys. of Med.
12.3 432, Mass. Gen. Hosp.; 13.5% in 303, Jackson, Rep. on Typh. Fev., 1838, and 8.8% in 129 rep. by Shattuck, Boston Med. & Surg. Jour.
11.3 311, St. Francis Hosp., Oct. 1, 1884, to Jan. 1, 1892; Spence, Med. Rec., Nov. 26, 1892.
7.8 19,017 treated by all kinds of cold baths; collected from various sources by Brand; quoted by Baruch, loc. cit.
5.7 11,902, all kinds of cold baths; 31 sources (see table I).

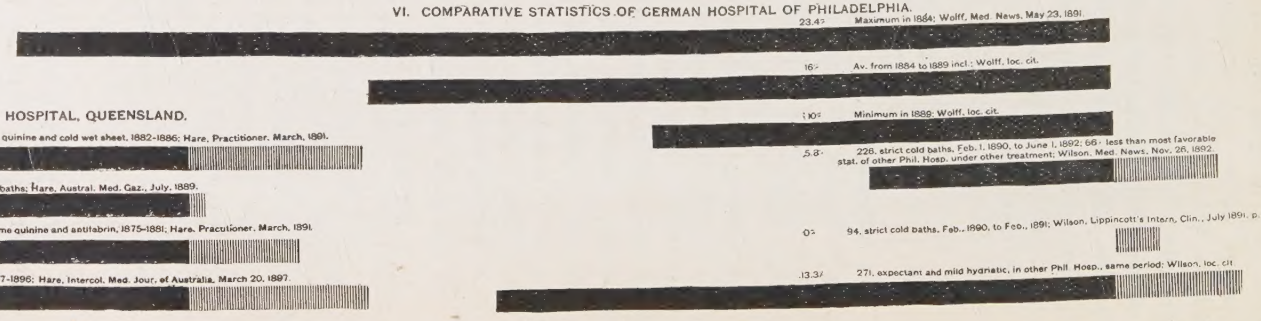
IV. COMPARATIVE STATISTICS OF FRENCH HOSPITALS



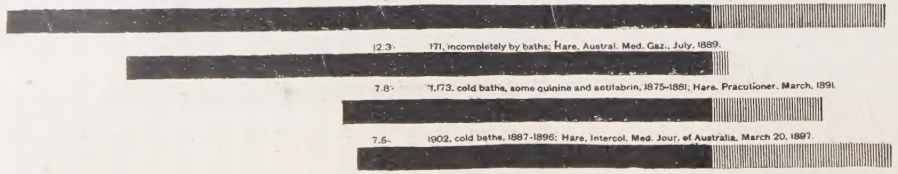
V. COMPARATIVE STATISTICS OF MUNICH CARRISON HOSPITALS.



VI. COMPARATIVE STATISTICS OF GERMAN HOSPITAL OF PHILADELPHIA.



VII. COMPARATIVE STATISTICS OF BRISBANE HOSPITAL, QUEENSLAND.



There is no escaping the responsibility involved in the answer. It can not be shifted to the patient. His may be the right of choice, but ours is the duty of guidance. Opposition by the laity will never be overcome as long as there is indiffierence in the profession. But let the impetus come from you and the cold-bath treatment of typhoid fever will soon be accepted as a matter of course.

2209 Sidney street.

Notes and Items

The following is the programme of the St. Louis Medical Society of Missouri, Saturday evening, November 4th, 1899: "Abscess of the Lung," by Dr. William Porter.

Harrisburg, Pa., has under consideration an ordinance dealing with patent medicines. It is opposed by advertisers of patent medicines and dealers who are in the habit of distributing to the public samples of wares. Physicians and druggists are strongly supporting the measure. It provides that it shall be unlawful for a person to peddle or to distribute upon the highways or premises any patent medicines or samples of patent medicines.

At the last meeting of the British Medical Association a paper prepared by Prof. Dewar detailed his success in solidifying hydrogen, the last of the old gases remaining which have not been so treated. Solid hydrogen is said to look like frozen water. Dr. Mond said that while it was gratifying to learn that Prof. Dewar had achieved this great result, the wonder was that he was alive to tell the tale, as the experiment was one of considerable danger. In solidifying hydrogen the slightest leakage of air forms a detonating mixture which explodes with great violence.

In recent years much attention has been directed to the filtration of drinking water, and of late some attention has been given to sterilizing it. According to a Roman correspondent of the *Lancet*, recent observations in Italy show that water may be quickly and thoroughly sterilized by peroxide of chlorin. This substance is said to be so toxic for ordinary bacteria that only three grams are necessary to sterilize a cubic meter of water. It is said also to be economical, the cost being a half centime for a cubic meter. Of course it will not purify sewage, or where there is a very large amount of organic matter present; but it is said to be effective in water containing a moderate amount of impurity such as that commonly supplied cities and towns.

A public analyst is a necessity in every community, and a qualified expert of this kind should be connected with every city health department. There is no greater safeguard for adulteration than publicity. When it is once known that a firm is in the habit of manufacturing adulterated goods, doubt is at once thrown upon the products of that firm, whether sophisticated or not. The excellent work that has been done by the Connecticut Experiment Station ought to be copied by States throughout the Union. Some of the adulterations which they have found are decidedly startling. A "pure fruit jelly" was analysed and was found to consist of starchy paste, sweetened with glucose, artificially flavored, colored with coal tar dye, and preserved with salicylic acid.

The July number of the *Cosmopolitan Osteopath* has the following: "Homeopaths treat symptoms. Allopaths treat the condition causing the symptoms. Osteopaths treat the causes of the condition producing the symptoms." This is illustrated by the State Board of Health of Iowa, as follows: "If a mad dog bites a person, the poison introduced into the circulation is the 'condition' causing the symptoms. The cause of the condition producing the symptoms is the mad dog, hence the osteopath confines his treatment to the dog."

"A woman approaching maternity often has serious and grave trouble because of her 'condition,' such as very dangerous hemorrhages or puerperal convulsions. The physician would treat the 'condition' by as prompt delivery as possible. The osteopath would treat the 'cause of the condition'—the husband. Such treatment, if radical, would be good from a preventive standpoint; but what of the poor woman who needed most of all the 'condition' properly and promptly treated, and not its 'cause?'"

A correspondent of the *Medical Record*, gives the result of the inquest upon Dr. Dick of Eastbourne, England, who died of strychnin poison through his own mistake. He had given medicine to one of his patients, and when sent for the next day was told that the first dose had made her very ill. He said that this could not be, and to reassure her poured out a dose and swallowed it in her presence. He admitted it was nasty, but stated that it was harmless and he would take another dose on leaving. He did so and rode home on his bicycle; but on arrival symptoms of poisoning appeared, and he was only able to suggest the stomach pump. Medical attendance was at hand, but he sank rapidly in spite of all treatment. Analysis showed that the medicine contained strychnin. The patient who took only one dose, recovered. Two bottles were found in the deceased's surgery near to each other, neither labeled, one containing chloroform water, the other a solution of strychnin. The tragedy in this case teaches the lesson that in dealing with poison all possible precautions should be taken, and in the dispensing of them the physician should take quite as much pains to guard against his own mistakes as those of others.

MEDICAL REVIEW

A WEEKLY JOURNAL OF MEDICINE AND SURGERY

EDITED AND CONDUCTED BY

H. W. LOEB, M.D., ST. LOUIS,

AND

WILLARD BARTLETT, M.D.	W. P. LOTH, M.D.
Y. H. BOND, M D.	F. J. LUTZ, M.D.
W. B. DORSETT, M.D.	H. N. MOYER, M.D.
CARL FISCH, M.D.	J. S. MYER, M.D.
A. FRIEDLANDER, M.D.	B. H. PORTUONDO, M.D.
R. B. H. GRADWOHL, M.D.	A. RAVOLD, M.D.
JAS. G. KIERNAN, M.D.	S. I. SCHWAB, M.D.

YEARLY SUBSCRIPTION, $1.00

All communications should be addressed to
DR. H. W. LOEB, Managing Editor,
3559 Olive St., St. Louis, Mo.

Entered at the St. Louis Postoffice as Second-Class Matter

THE ST. LOUIS MEDICAL LIBRARY.

The St. Louis Medical Library was formally opened by a reception given on the evening of Oct. 30. The interest which the profession is taking in the enterprise was manifested by the large attendance and the assurances of support on the part of those present.

The association was organized less than six months ago, yet there are already upwards of 2500 volumes upon its shelves, mainly the result of donations. The first book given to the library was a copy of Beaumont's Experiments Upon St. Martin, published at Plattsburg, N. Y., in 1826, presented by Dr. Louis C. Mitchell of Chicago. The following have been liberal in their donations: Drs. Pollak (700 volumes), Prewitt (500), Homan (200), Fry (150), Tuttle (125), Carson (100), McPheeters (100), Homan (100), Duncan (50), Finley (50) and Mrs. J. M. Leete (100). In addition, books have been received from Surgeon-Generals Sternberg and Wyman, Drs. Grindon, Gehrung, Lewis, Campbell and others.

There are 185 medical journals regularly received, indexed and placed on file, embracing a wide range of medical literature and including the most important journals in the world. Fifteen hundred reprints are available for use. The establishment of a library of which the present is but a nucleus has long been a dream of the profession of St. Louis, and unfortunately it did not pass beyond the limits of dreamland until a few months ago. The earnest work of the President, Librarian and other members of the Board of Trustees has established a tangible foundation for a library which, with the assistance of the profession at large, can be made complete in all particulars, at the same time reflecting great credit to St. Louis. No progressive physician can afford to deny himself the benefits which pertain to membership in this association.

It is to be hoped that the Public Library Board will perform an act of justice by bestowing the library of the St. Louis Medical Society upon the new association.

The following are the officers: President, N. B. Carson; Vice-President, J. H. Duncan; Secretary, F. L. Henderson; Treasurer, A. R. Kiefer; Librarian, F. J. Lutz. Trustees: A. Alt, Bransford Lewis, Armand Ravold, Simon Pollak, Joseph Grindon, Geo. C. Crandall.

THE TWELFTH CENSUS AND MORTALITY STATISTICS.

A decided effort is being made by the Director of the Twelfth Census to unify the mortality statistics. That this is imperative will be readily granted when we call to mind the variety of conditions under which reports are made and the absence of any report in many sections of the country.

States vary in their laws upon the subjects, likewise counties, cities and villages, to say nothing of the great differences which probably exist in the reporting blanks which are used.

While the task of gathering information which partakes of exactness will be attended with much difficulty and labor, the Census Bureau hopes with the assistance of the profession to lighten this burden and to furnish statistics whose value will not be subject to doubts on the score of accuracy.

The following comprises the list (with explanations) of census inquiries which it is hoped will be incorporated in all notifications of death:

1. *Name*, in full.

2. *Color; White, Black* (*Negro* or *Negro descent*), *Indian, Chinese* and *Japanese.*—This term (Color) includes Race, so far as the Census takes note of racial distinctions. Each constitutes a certain distinct class for which certain tables will be compiled. The degree of color of Negroes, as indicated by the words "Mulatto, Quadroon, etc.," which was asked in the last Census, will not be asked in 1900, but all of these details of color will be included under the general term "Black."

3. *Sex; Male, Female.*—The sex of each person should be positively stated. The work of compilation is retarded if sex is left to be inferred from the given name, or from the use made in the return of the personal pronouns "he" and "she."

4. *Conjugal Condition; Single, Married, Widowed, Divorced.*—Very few of the certificates or returns in local use include any specification of "Divorced" and in many of them the only distinction

made is between "Married" and "Single." The "Widowed" and "Divorced" may, therefore, be called either "Single" or "Married," according to the point of view, and, when so reported, can not be separated. In the computation of mortality, and to show the influence of conjugal condition upon the death rates due to certain causes, the distinctions indicated are equally important, and should be carefully maintained.

5. *Date* of *Death; Year*, *Month*, and *Day* of month.

6. *Date of Birth.*—This question occurs in some of the forms of return, of which copies have been forwarded to the Bureau. It is of importance as a check upon the statements made as to age, particularly in the case of children. (See also "Age.")

7. *Age;* in *Years*, *Months*, and *Days.*—When age is called for, without the exactness required by these details, this question may be construed as referring to the person's age at the last birthday, the *next* birthday, or the *nearest* birthday. An exact statement of age is very important, especially in the case of children, because the correct computation of infantile mortality depends upon it, and because also the computation of life tables involves the work of construction in which slight errors in the statement of proportion and death rates of children are magnified when carried forward in the subsequent processes of calculation.

8. *Occupation.*—The effect of "Occupation" must necessarily be taken into consideration in any comprehensive mortality statistics. The precise instructions given to the census enumerators as to the description and classification of occupations can not be applied to, and their observance secured by, the physicians, undertakers, and others who report deaths to the registration officers. The general principle is to bear in mind what labor the deceased actually performed, without regard to the place or the person for whom he worked. Care should be taken to express the occupation in such a way as to prevent it from being confounded with other occupations, and it is preferable to give too much detail rather than too little.

9. *Place of Birth.*—If born in the United States, give the name of state or territory; if of foreign birth, the name of country. Some forms of return in local use call for "Nationality," and, when this is used, the state or country of birth should also be given. (See Birthplace of Mother.)

10. *Birthplace of Father.*—Same as above.

11. *Birthplace of Mother.* Same as above. The distinctions of sex, color, and general nativity run through all of the compilations. The birthplaces of parents are necessary in order to classify the deaths by parental nativity. The proportion of persons of foreign parentage is so large, and the difference in the death rates so considerable, that this becomes a very important factor. The "Birthplace of Mother," in particular, is extensively used, as best indicating the influence of race characteristics and inherited tendencies.

12. *Disease, or Cause of Death.*—This point is usually covered in a satisfactory manner in the official registration records.

13. *Place of Death.*—If in a city, the name of the street and the number of the house should be specified; the number of the ward should be stated also, and the ward designation verified by the registrars. In certain cities the data will be compiled in this office by "wards," and in others by "sanitary districts," which are subdivisions made by the Bureau in accordance with local topography, drainage and sewerage, buildings, population characteristics, and general sanitary conditions. The precise location of the place of each death is necessary in order to credit it to the proper ward or sanitary district. If in a hospital or other institution, the name and location of the institution should be given, also the length of time the deceased was an inmate thereof, and the previous residence, in order that the death may be charged to the locality to which it is due and not to the neighborhood in which the institution happens to be situated. It would obviously be an error to charge a healthy sanitary district with all deaths occurring in some large hospital or institution receiving patients from other sections of the city.

14. *Late Residence; in the City or State.*—This is necessary to distinguish transients from residents and to permit transfers to the proper localities when such transfer should be made.

A precise answer should be furnished, so far as possible, to each of the foregoing questions, omitting none. All of them are required by the census schedule, and every one of them is essential to the complete analysis and discussion of mortality statistics for the whole country.

Perhaps all this will eventually lead to the establishment of a Department of Public Health.

THE MARQUIS OF LORNE ON VACCINATION.

The Marquis of Lorne, in his opening address to the Institute of Public Health, made the following allusion to vaccination, and the controversy that has raged about him:

"When we reach the end of another century and many other diseases beside small-pox are capable of being prevented in like manner, shall we see, as now, the very immunity and safety conferred by science produce a disbelief in the presence of danger, and the chief bulwark against the microbes of disease torn down so as to give a fresh lesson to the short memory of the people?"

Current Medical Literature

DISEASES OF CHILDREN.

Tuberculous Adenitis.—Morgan* discusses the etiology of this condition and shows that the tubercle bacilli reach the glands either by the skin or by the mucous membrane. Superficial wounds, eczema, impetigo, porringo, all allow the passage of the bacilli from the skin. The more important method of infection is from the mucous surfaces, and here it is especially: 1, the teeth and gums; 2, tonsils; 3, nasopharynx, especially the vault affected by the adenoids. Spongy and congested gums and carious teeth are frequently followed in strumous children by tubercular enlargement of the submaxillary and deep cervical glands. Thus in over 3,000 children with swelling of the glands, more than 75 per cent. had bad teeth in the lower jaw, and in 70 per cent. the bad teeth, with regard to the position, degree of affection, etc., corresponded exactly to position and degree of the swollen glands. The frequency with which the tonsils and the adenoids act as foci of initial infection is an indication for early operation in strumous children where these structures are enlarged. With regard to treatment, special attention should be directed to the milk, the hygienic conditions should be watched, and frequent examinations made of the gums, throat, and nasopharynx to remedy any existing evil there. But fresh air and sunlight are all more important than drugs; of the latter cod-liver oil is very valuable. Locally, iodid of potassium ointment well rubbed in the skin over the gland is of some value. If excision becomes necessary, care should be taken not to exercise too much pressure lest some of the tuberculous material pass through the medulla of the glands of the efferent vessels.

Concerning the Mammary Secretion of the New-Born.—Nenrath.† The mammæ of the newborn secrete during the first twelve days a fluid at first serous in character and finally resembling in every particular the mother's milk. The secretion begins to appear about the time when the remnant of the umbilical cord is disappearing. As to the physiology of this so-called "Hexen-milch" little or nothing is known. Pressure upon the mammæ should not be indulged in, for it frequently results in injury to the delicate tissues, and consequent infection (mastitis neonatorum), cellulitis, erysipelas, and sepsis resulting fatally, have been recorded in these cases, following injudicious and unnecessary manipulation of the tiny mammæ on the part of the nurse or doctor. It is quite possible that the permanent secretion found in some adults of both sexes has some connection with the secretion in the newborn.

Causation of Night Terrors.—After a review of this subject, based upon a careful study of thirty cases, Little* concludes as follows: 1. Night terrors are in a great majority of cases caused by disorders productive of moderate but prolonged dyspnea. 2. A preponderating number of cases is found in rheumatic subjects with early heart disease. 3. A considerable proportion of cases is due to obstruction of nasal cavity and fauces. 4. Digestive disturbances do not play the important part in causation that is often assigned to them. 5. The evidence of causal connection with epilepsy or allied neurosis is scanty. 6. The attacks occur in the subconscious stages of early sleep and are confined to young children under puberty.

Enlarged Glands in Children.—Schleich has studied the pathology of the lymph glands in children. According to the most recent researches, the lymph ganglia are actually an apparatus not only for filtration but also for rendering innocuous the most varied kinds of virus, so that they form an enormous mechanism against the infection of the body at large by a definite peripheric current of lymph. From this standpoint great caution in extirpation should be exercised. Thus it has been shown that after extirpation of the lymph glands of the arm, injury or infection to that arm was followed by excessively severe general symptoms. It has also been shown that certain drugs used hypodermically for a long continued time may be held in these lymph filters, *e. g.*, morphin and cocain. Another argument against the radical operation is that "total extirpation" is in most cases an illusion. Rules to govern our practice in the surgical therapy of the glandular affection in children must be formulated upon a basis of pathologic anatomy conjoined with clinical experience. So far as the glandular engorgement is the expression of a purely inflammatory irritation, so far as the hyperplasia is dependent upon absorption of toxins, a total extirpation of the glands would be an operative error. Enlarged glands are apt to undergo one of three kinds of retrogressive metamorphosis, viz., fatty degeneration, caseation, and suppuration; therefore our therapy must be based upon a recognition of which one of these three is likely to occur. Thus in purely inflammatory conditions, where there is no question of underlying cachexia, we are apt to have fatty degeneration of the glands and their removal is distinctly contraindicated. The enlargement of the glands in such cases persists until oxidation or reduction of the poison is complete. When involution begins to appear this resolution may be aided by appropriate medication, noticeably by the use of iodid of potassium internally and mercurial salves locally. The diagnosis of caseation or suppuration is often a matter of difficulty and due reliance must often be

*Pediatrics, October 15, 1899.

†Centralblatt für die Gesamte Therapie, Oct., 1899.

*Pediatrics, October 15, 1899.

placed upon the general symptoms. Thus if we find enlarged glands in persons who are of the so-called lymphatic constitution—status lymphaticus—we may feel sure that they contain cheesy foci. The author is distinctly opposed to operation on these cases unless life is threatened. Caseous glands often have the angular outline of a bean or plum seed, while the purely hyperplastic glands have the rounded succulent appearance of a plum. When operation must be done on a caseous gland the author prefers to split the capsule and enucleate the contents with a curette, believing that this procedure is less dangerous than total extirpation. In cases of distinct suppuration, the the author employs incision, tamponade, and frequent dressings for the acute cases, and the complete excision for the more chronic cases. When glands are the seat of neoplastic infiltration, complete excision is indicated when possible.

Treatment of Rickets in an Out-Patient Department.—SYMPSON* says that the two great principles of out-patient treatment are simplicity and directness. His plan is as follows: In young children with heavy bodies and heads, protuberant bellies, head-sweats, commencing or acquired bow-legs or knock-knees, the food supply is carefully regulated, the digestive function being restored to the normal as soon as possible. The starches are limited, the fats, especially bacon fat and drippings, being added. For very young children the addition of cream to the diet is very valuable. The soups and broths are highly recommended. For marasmic patients daily rubbings of cod-liver oil. Internally appropriate doses of cod-liver oil and syrup of phosphates of iron. Where tubercular or syphilitic diathesis is present, the syrup of iodid should be substituted for the phosphates. For the treatment of the rickety deformity, especially of the leg bones, outside splints should be applied to prevent the child from walking. These splints should be removed every two or three weeks and replaced. They should not be tight, as not very great pressure is wanted to straighten the leg; it is only in this manner the weight of the body can be kept from them.

EYE, EAR, NOSE AND THROAT.

The Relation of Pathologic Conditions of the Ethmoid Region of the Nose to Asthma.—H. L. SWAIN.† The pathology in brief involves step by step the following sequence, it being understood that the process may take years to develop or it may occur in a much shorter time: We conceive first the existence of a simple hypertrophy in the nervously hypersensitive individual. The vasomotor instability and the nerve irritability cause further development of the lesions in the middle turbinate regions, and produce in time waterlogging of the tissue. This becomes then edematous hypertrophy, and this latter may become a polyp. These lesions produce pressure over sensitive areas, which, through constant irritation from pressure, become more sensitive, so that reflexly there is produced a bronchial vasomotor disturbance. If once the reflex avenue has been opened it is easy to conceive that the disturbance, which is felt first as a sort of oppression or weight in the chest, becomes later a genuine obstruction to breathing, and, there being added to this a spasm of the bronchial tubes, we have a full-fledged asthma. There are asthmatics whose attacks are not apparently nasal, but who are yet made much better or entirely relieved by removing any existing nasal disease. These people have their disturbance only under peculiar conditions, such as overindulgence in food and drink, disturbed kidneys, a cold, etc. These belong to the vasomotor cases. Occasionally the only remedy is in change of environment, and then we remove one or another causative factor. We must often look outside of the nose, and many times outside of the body, for the causes which lead to pathologic conditions in the nose.

A Case of Epistaxsis Due to a Leech.—MANASSEH.* Child had suffered from hemorrhage from one nostril off and on for three days. The blood was dark in color and soon clotted. No blood appeared through the mouth. Child looked anemic, but there was no indication of any constitutional cause for the hemorrhage. Blood was seen to be blocking the right nasal opening, and on looking into the mouth the end of a leech was found hanging over the posterior wall of the pharynx, and clinging to the posterior nares. The leech was detached, and the hemorrhage ceased immediately. The child is supposed to have gotten the leech while drinking from a spring.

Abscess on the Anterior Surface of the Epiglottis.—A. C. HOWE.† The unusual condition of abscess in this location presented itself in a man of 24 years of age, a laborer. He complained of pains and tenderness just above the larynx and a rapidly increasing dyspnea. Soreness of the throat had begun one week earlier. Inspection showed the fauces and pharynx inflamed. The epiglottis was forced backward and down so as to almost completely close the opening to the larynx. This position was caused by a well-defined, rounded tumor, half an inch in diameter, occupying the middle of the anterior surface of the epiglottis and extending almost to the tip. The tumor was incised and nearly a drachm of yellow, foul-smelling pus was discharged. Dyspnea was greatly relieved at once and other symptoms rapidly subsided. After healing, the surface was dimpled and the lateral curvature flattened and the tip bent forward. In ten days the epiglottis had returned to its normal position. The case proves that perichondritis

*Pediatrics, October 15, 1899.
†N. Y. Med. Jour., Oct. 28, 1899.

*Lancet, Sept. 16, 1899.
†N. Y. Med. Jour., Oct. 28, 1899.

results in abscess and necrosis of the cartilage of the epiglottis.

Fibro-Lipoma of the Tonsil.—T. A. DEBLOIS* reports a case of this rare tumor. The patient, a man 41 years old, had noticed for several months a swelling in his throat. A small tumor, about the size of a small peanut, was seen hanging by rather a thin pedicle, which appeared to grow from a crypt in the patient's left tonsil, near the top. The tumor was removed and microscopic examination showed a section banded completely, except for one-sixth of its periphery (the pedicle), by dermis. Within is a coarse, irregular network of fibrous tissue, the fibres of which are somewhat separated (edematous), the network bearing, most deeply in the mass, areas of large fat globules. Anatomic diagnosis, fibro-lipoma. A short reference is made to other cases of this nature heretofore reported.

HYGIENE AND BACTERIOLOGY.

Remarks on the Theory of Natural Immunity.—P. BAUMGARTEN.† There are two principal theories which have been advanced to explain natural immunity: the phagocytic theory and the alexin theory. The former has not shown itself sufficiently broad to include all cases, and has not met the expectations of its adherents, and has been given up in certain respects by its discoverer. The latter theory still holds the attention of the scientific world. The alexin theory depends upon the assumption that there is contained in the blood serum a bactericidal substance, which Buchner has attempted to describe, and which he has suggested to be a variety of enzyme allied to the albumins. Baumgarten has sought for another explanation, and for this purpose his student, Jetter, after a series of experiments came to this general conclusion: Bacteria which are placed in a medium other than that of their origin have a struggle for existence, as a result of which they cease to exist in proportion as the new medium is different and less fitted for their existence than their original medium. Jetter's work, however, received little recognition. The question was again taken up by Walz. In this series of experiments it was found that the most important factors in rendering the existence of bacteria impossible were disturbances of assimilation on the one hand and disturbances of osmosis on the other. It was found that there existed a great difference in the culture-medium of different bacteria, and that no universal culture-medium existed. Blood serum was found to be favorable to the growth of some forms, and not to others. This can be explained on the ground that unfavorable culture-media cause disturbances in the assimilation of the bacteria. It was observed that in transferring certain bacteria into blood serum media, that not only did the growth itself cease, but there was a destruction of the bacteria. This is explained in part by the assimilative disturbances, in part by the mechanical effect of the transferrence, but mostly by the difference in the osmotic pressure from the favorable to the unfavorable medium. Since Buchner has explained the bactericidal property of blood serum to be due to the action of certain albuminous enzyme-like bodies, the action of true enzymes (trypsin, acid-pepsin) on bacteria was microscopically studied. From this it was concluded that there was absolutely no similarity between the effect of the enzymes on bacteria and that which the blood serum caused. The latter action is believed to be dependent exclusively on plasmolysis. Plasmolytic disturbances of assimilation are the important cause of the destruction of bacteria in unfavorable plate culture-media. A bactericidal effect of blood serum, in the sense that there are bactericidal substances present in the blood, cannot be supported. At least the existence of such substances has not been demonstrated. Baumgarten believes that natural immunity can be explained by his assimilation theory, although as yet this theory has only a few supporters.

State Care of Consumptives.—A. MEYER.* Until recently the medical profession as a whole took a pessimistic view of pulmonary consumption and was slow to appreciate at their full value the benefits of the outdoor treatment under daily medical supervision. The first State hospital for consumptives and tubercular patients was established in Massachusetts one year ago, and has proven of great value. In the first six months of its existence 224 patients had availed themselves of its benefits, a very large number of whom had been improved by an average stay of only four months. The mode of life is described, together with the general routine of the establishment, management of the wards and medical service. Hopeless cases are not admitted, and cases whose prognosis was sufficiently favorable to secure their admission are discharged if they do not show improvement within four or six weeks. The establishment of similar institutions is advocated.

Experimental Investigation on the Preservation of Fish and Meat by Means of Salt.—This investigation was undertaken by A. PETTERSON† to determine the exact bactericidal effect of salt in the preservation of meat and fish. Fish and meat were tried in various salt solutions from 5 to 23 per cent. The specimens were then heated to a limit of 25° C. (summer temperature), and observed for 2½ months. It was found that in all cases up to 15 per cent. salt solutions a bacterial growth could be observed. Twenty per cent. strength first showed a satisfactory

*N. Y. Med. Jour., Oct. 28, 1899.
†Berl. klin. Woch., Oct. 9, 1899.

*N. Y. Med. Rec., Oct. 28, 1899.
†Berl. klin. Woch., Oct. 10, 1899.

prevention of bacterial growth. A difference between bacillus and coccus forms was observed. The precipitates formed were examined for H_2S, indol and phenol. Fish became more quickly decomposed than meat, and a stronger salt solution is needed to prevent decomposition. It seems evident, then, from these experiments that fish and salt preparations which are conserved in less than 15 per cent. salt solutions give opportunity for bacterial growth.

INTERNAL MEDICINE.

Value of the Tuberculin Test in the Diagnosis of Tuberculosis.—E. O. OTIS* summarizes his conclusions as follows: 1. The tuberculin test indicates early tuberculosis, by a general reaction before it can be detected by other methods, except the X-ray, in a large majority of cases with a dose of from 5 to 100 mg. of Koch's original tuberculin. 2. No injurious results occur from the use of tuberculin in these doses. 3. Proved tuberculosis, in a more or less advanced stage, may fail to give a general reaction from doses of from 10 to 12 mg. 4. Syphilis gives a reaction in an undetermined proportion of cases. 5. There is a dose, undetermined, at which a non-tuberculous person may react or simulate a reaction. 6. The reaction may he deferred from six to twenty-four hours. As rules to be observed in making the test: 1, always use the same tuberculin, and of a standard strength; 2, use aseptic precautions in giving the injection; 3, make the injections deep into the muscles of the back, arm or leg; 4, keep a two, three, or four-hourly chart of the temperature, if possible, beginning twenty-four hours before the injection; 5, allow several days to elapse before repeating the test; 6, in early cases depend on the general reaction—in late cases, if the general reaction fails, carefully look for the local.

The Diagnosis of Tubercular Peritonitis — GALLANT,† after a complete discussion of tubercular peritonitis, draws the following conclusions: 1. Tubercular inflammation of the peritoneum is met with at all ages and is most common in early and adult life. 2. It is most frequently met with in women and between the ages of 20 and 40 years. 3. It most often originates in the pelvic sexual organs, and from that point may extend to the visceral and parietal abdominal peritoneum. 4. As a primary lesion of the peritoneum, it resembles in its inception, subsequent history and final outcome the various forms of the same disease in other serous cavities. It may be secondary to tubercular disease in any other part of the body, especially the lungs and pleura. 5. The most distinctive features of this disease are: (*a*) a rather constant subnormal moving temperature, rising to the normal in the late afternoon, reaching a little above at night; (*b*) hypogastric pain on pressure, on walking and urination; and (*c*) the presence of tubercle bacilli in the pulmonary, cervical and vaginal secretions. 6. Anesthetic examination in pelvic cases will often aid in clearing up the diagnosis, but when the abdomen is tensely distended with encysted fluid, unless immediately preceding operation, it will only subject the patient to useless discomfort. 7. A positive diagnosis other than by exploratory incision is in some cases impossible. 8. Early abdominal section, evacuation of the fluid, removal of the original focus, carefully avoiding any attempt to break up intestinal adhesions, thorough irrigation of the cavity with saline solution and closure of the abdomen without drainage of any form has been shown by later operations for other conditions, and on autopsy, to have resulted in permanent cure. 9. When confined to the pelvis, removal of the vaginal focus usually results in a permanent cure of the disease. 10. Where fluid accumulates a second celiotomy will be curative or prolong life. 11. Tubercular disease in other parts, especially the lungs and pleura, is not a contra-indication to operation, which will be followed by a more or less prolonged abeyance or retardation of the disease.

Diabetes Mellitus.—J. M. ALLEN.* If the proposition is true that the etiologic factor in this disease is a perversion of nutrition, its study should be begun from two sources: the food matter and the chylopoietic viscera. The weight of evidence is against the pancreas being an etiologic factor in the production of diabetes. The fact that the food prescribed for diabetic patients excluded all articles digested and assimilated in the duodenum and the other small intestines, led to a careful examination of every case of diabetes for chronic inflammation and induration of the duodenum. Twenty-six cases were found in which the diabetes was preceded by chronic inflammation of the duodenum, and in none of them could disease of the heart, liver or pancreas be established; in some of these cases, in which a post-mortem examination could be made, this finding was verified. Treatment was based on the philosophy of this etiology and pathology, and gave excellent results. The patients are allowed only such foods as can be digested by the stomach, giving the duodenum rest; germicides are given, as creosote, sulphocarbolate of zinc aud soda, eucalyptol, etc. To control reflex irritation $\frac{1}{15}$ to $\frac{1}{10}$ grain of morphin is given three times daily or aqua chloroformi, a dessertspoonful three times daily. Strychnin or nux vomica, the bitter tonics or phosphates should be used, but iron preparations and cod-liver oil excluded; 20 to 30 grains potassium bicarbonate given largely diluted, just after eating, renders the chyme less acid and the beneficial effect is shown by decreased amount of sugar in the urine and in the

*Jour. Amer. Med. Asso., Oct. 28, 1899.

†American Journal of Obstetrics, October, 1899.

*Jour. Am. M. A., Oct. 28, 1899.

amount of urine secreted. It makes the chyme less irritating to the duodenum, thereby decreasing the reflex trouble. The environment of the patient should be hygienic, with plenty of fresh air, baths and massage of the skin every other day, and no mental or physical work.

Therapeutics of Pneumonia.—F. G. WHEATLEY.* The dietary and hygienic surroundings should be no different from that of other acute diseases. Regular forcible inspirations are considered extremely useful at such intervals and during such time as each individual case will admit. Local applications have not proven of special value. The most useful agents are: acetanilid in the initial stage, where nervous disturbance and pain are present; opium for pain not amenable to acetanilid; codein or heroin for the relief of the distressing cough; strychnin for sudden failure of heart power, given in doses of $\frac{1}{20}$ grain, if necessary; nitroglycerin for its effect on arterial tension; alcohol, preferably champagne, as an aid to strychnin; oxygen when deficient oxygenation is present; digitalis from the time a diagnosis is made until convalesence is established. Two or three days are needed to establish a full physiologic action from the use of this drug. The method advised is to administer the drug in small doses at frequent intervals, being guided in amount largely by the tolerance of the stomach. A pill or tablet is less likely to disturb digestion than a liquid preparation. The routine use of digitalis will render the use of most of the other agents unnecessary, and will lessen the mortality.

NERVOUS AND MENTAL DISEASES.

Alcoholism,—C. J. DOUGLAS† believes that there are few chronic diseases which will more surely yield to proper medical treatment than alcoholism. Proper treatment can be given if the patient is removed from home and customary surroundings. The withdrawal of alcohol should be gradual and its place temporarily taken by hydrastis or capsicum or other indicated remedies. The patient should be removed to a sanitarium where the treatment of such cases is made a specialty, one ethically conducted, and where the physician may see his cases and receive any information he desires regarding the treatment. Alcoholism is a disease of the nervous system; it is purely a physical difference that distinguishes the moderate drinker from the helpless drunkard. In the acute stages of alcoholism, sleep and nourishment are of the first importance. The best food is eggnog, which the stomach will usually retain. A satisfactory hypnotic is a mixture of bromid of potassium and chloral in equal parts; trional is the best of the coal-tar products, but it must not be given in large doses. Apomorphin is a harmless remedy that will produce sleep in a few minutes even when patients are wildly delirious. Just enough should be injected subcutaneously to produce slight nausea, about $\frac{1}{30}$ of a grain being the average quantity required. This is of special value in mania from whatever cause. After the patient has recovered from the acute symptoms he should have a course of tonic treatment for several weeks. Nitrate of strychnin is recommended, but in smaller doses than usually advised; it should be given hypodermically for several reasons: the stomach is less burdened by drugs; the remedy goes directly into the circulation; the dosage can be regulated with great accuracy; remedial action is more prompt; it brings the patient face to face with the physician several times a day. Gold has not been found to possess the marvelous properties attributed to it, though it is of some value. One or more bitter tonics should be employed during convalescence. The aim of the entire treatment is to build up the patient's general health so that he may return to his home in the best possible condition. Cheerful and hopeful surroundings, in the company of others who are under similar treatment, are conditions of great value.

Case of Large Tumor of the Brain.—J. M. BALL* reports a case occurring in a man 51 years old. For 20 years he had attacks of supraorbital neuralgia on the right side; for 12 years had reflex vomiting with no regularity. For 4 days he had great pain in the back of the neck, worse on lying down; pain greatest over the cerebellum. There is no history of syphilis. He complained of diplopia for 7 or 8 weeks; ophthalmoscope showed marked condition of double choked disc. The case had been diagnosed as "chronic vertical meningitis," cerebral syphilis, abscess of the brain, and tumor of the brain, the last diagnosis being made by Ball. Complete loss of sight, impaired coördination, loss of patellar reflex soon followed; pain was referred to the right parietal region and the base; patient never had a convulsion. Large doses of iodid and mercury had been given without any effect. Polyuria developed, with abundant phosphates, and the patient's condition gradually grew worse. The skull was opened on the left side, but only an excessive amount of cerebrospinal fluid was found. The operation could not be continued on account of the patient's condition. He died in a few hours. Post-mortem examination showed the presence of a large tumor on the right side, which grew from the dura over the opucula of the island of Reil; microscopic examination showed this to be a spindle-cell sarcoma.

The Cause of Death From Industrial Electric Currents.—R. H. CUNNINGHAM† concludes his investigations with the following summary: 1. Industrial electric currents, which traverse the whole body

*Jour. Amer. Med. Assn., Oct 28, 1899.
†N. Y. Med. Jour., Oct. 28, 1899.

*Phila. Med. Jour , Oct. 28, 1899.
†N. Y. Med. Jour., Oct. 21 and 28, 1899.

transversely or longitudinally in sufficient intensity, kill because fibrillar contraction of the heart is produced and not by producing a total paralysis of that organ or by killing it outright. 2. Such currents neither kill the central nervous system outright nor paralyze it instantaneously. Death of the nervous system from such currents is due to the total anemia following a sudden arrest of the circulation. 3. In rare instances, when an electric current traverses only the cerebro-cervical portion of the nervous system in considerable intensity or for a considerable length of time, it may kill by asphyxia, consequent to a more or less complete inhibition of the respiratory movements, which occurs chiefly during the passage of the current. No existing facts warrant the conclusion that the medullary respiratory center is paralyzed or killed in such conditions. 4. Industrial currents are practically non-lethal to frogs and turtles, as the conditions of fibrillation quickly and spontaneously disappear from their hearts after the current has ceased to pass. Such animals can be killed by a very long application of a current of moderate intensity or by use of enormous voltage and large intensity. 5. Strong electric currents applied to the surface of the skin affect the heart in the same manner as currents of less strength do when they are applied directly to the exposed heart. 6. It may be possible for an electric current of enormous intensity and electro-motive force to produce instantaneous death either by its disruptive action or by producing an instantaneous heat coagulation of the cellular constituents of the body. Industrial currents do not kill instantly, although as a result of their action death rapidly occurs. The experiences of individuals who have recovered from severe electric shock indicate that such a mode of death is not a painful one. 7. Spontaneous recovery of the dog's heart from fibrillation produced by strong currents is rare. Such spontaneous recovery and restoration of the arrested circulation after the external application of a strong current for two or three seconds appears not to exist. 8. Artificial recovery of the excised dog's heart from fibrillation induced by the external application of a strong electric current is possible. 9. Artificial recovery, with restoration of the circulation and recovery of the nervous system can be accomplished, provided the duration of the shock is short and the procedure is at once begun.

On the Employment Therapy in Functional Nervous Cases.—This is a further contribution to this important subject, first brought to notice by the work of Grohmann. The three points presented by VOGT* are: 1, in regard to its therapeutic utility; 2, in regard to the personality of the patient; 3, in regard to the personality of the physician. The therapeutic utility is based upon the following three facts: 1, by enlisting the attention of the patient; 2, in the normal satisfaction by means of the impulse for employment; 3, as the indirect source of pleasurable feeling. The employment selected must have the least possible relation to the symptoms of the patient, and must attract the attention of the patient as much as possible. The work must be one that can be accomplished only by the strictest attention. For example, a young woman given to pathologic day-dreaming must not be given knitting or sewing to do. The work must, further, awaken and hold the interest of the patient. Again, it must increase the patient's interest by its results. This feeling of interest can be a primary or secondary one. It is the former when, through the work accomplished, the patient has a feeling of pleasure. The latter consists in the feeling of pleasure through the effect on another. In order to arouse the feeling in the patient the work must, first of all, be a useful one. It must be one that the patient himself can hope to finish and it must hold his interest and attention constantly, but should not, of course, pass beyond the limits of toleration. The work should not be too complicated. The physician himself must take an interest in the work and its progress. Hysteria, neurasthenia, hypochondriasis, and psychopathia formed the main condition of the patients treated by Vogt after this method. The author concludes his paper in the following words, which perhaps may seem less optimistic than might be expected: "Whoever undertakes such a method of treatment may expect much trouble and disappointment, but here and there he will have the satisfaction of feeling that by the only possible method he has been able to make unhealthy, useless and unhappy people, healthy, active and useful members of society."

*Psychiatrische Wochenschrift, Sept. 10, 1899.

SURGERY.

Surgical Significance of Certain Peculiarities of the Peritoneum.—H. D. NILES.* Regarding the local and general conditions which influence the protective and eliminative powers of the peritoneum, recent experimental investigations as well as clinical experience tend to confirm these conclusions: 1. Lessened blood pressure encourages absorption and favors phagocytosis. 2. A normal heart and healthy excretory organs are favorable factors in the elimination of pathogenic germs. 3. The smaller the quantity, the less the virulence, and the more general the distribution of the pathogenic bacteria, the more likely the peritoneum is to dispose of them. 4. Any locus minoris resistentiæ offers inviting sites for the lodgment and multiplication of bacteria, and hence may retard or prevent absorption or may encourage exudation and the formation of adhesions. 5. The pressure of a foreign body, even if aseptic, within the peritoneal cavity, is an irritant and a certain producer of adhesions. All adhesions retard absorp-

*Jour. A. M. A., Oct. 21, 1899.

tion. 7. Any interference with normal peristalsis may result in a most serious complication and is always detrimental to absorption and elimination of infection. 8. Phagocytosis is always more effective when a large area of peritoneal surface is brought into contact with diluted infection. Finally these conclusions support the belief that pathogenic germs may always be safely disposed of provided the surgeon does his work promptly and completely and is able to secure conditions that are favorable for these natural agencies to exercise their full protective powers. The general ideas of treatment then are: 1. That peritonitis is always a surgical disease. 2. That the early operation should at all times be the one of choice. 3. That complete surgery promises more than incomplete surgery. 4. That preparatory and after treatment should include active and effective measures for the reduction of blood-pressure and increasing the activity of the phagocytic, absorptive and eliminative functions. 5. That the small incision, the least possible exposure and handling, complete removal of debris, avoidance of animal ligatures and sutures, perfect repair of the peritoneum, thorough flushing and no drainage, are all important factors in securing co-operation of these natural agencies.

Tumors of the Mammary Gland. — W. L. RODMAN.* It is readily seen that carcinoma is increasing everywhere, that all classes are sharing the increment, and that barriers which it formerly recognized, topographic and racial, have been broken down. This fact is of importance in a consideration of tumors of the mammary gland: since 81.66 per cent. of all mammary tumors are cancerous, women are twice as liable to malignant disease as men; 70 per cent. of such neoplasms are located in the reproductive organs; and since at least 25 per cent. are located in the breasts. When to this 81.66 per cent. of cancers is added the 8.75 per cent. of sarcomas, it is evident that over 90 per cent. of all mammary neoplasms are malignant. This forcibly emphasizes the necessity of an early diagnosis if treatment is to be successful. A tumor of the breast, being generally malignant, should demand immediate operation. Women should be better informed as to the pathology and treatment of neoplasms of the breast, so that they may seek medical advice early, instead of concealing the presence of a tumor in this location until it becomes malignant, causes metastases, or leads to cachexia. The desirable time for operation is before axillary involvement has occurred, when the cancerous process is strictly local, limited to the mammary gland, and prior to its attachment to skin or muscle. In advanced cases reliable evidence of internal metastasia is sufficient contraindication to operative measures. The age of the patient is a valuable aid in diagnosis, as cancer will be found, on an average, at the forty-eighth year; it is rare under thirty and practically does not occur under twenty. Location of the tumor is of significance; malignant growths are most frequently found in the upper and outer quadrant, lower or axillary quadrant, and behind the nipple. In the last situation they cause retraction of the nipple, which is found in 50 per cent. of all cases. They are fixed from their inception, are not encapsuled, and very soon become attached to the surrounding structures; the skin is usually dimpled and becomes discolored; pain is often absent early in the case. Enlarged glands, while not as a rule an early symptom, practically settle the diagnosis in favor of carcimona. Instead of mere aseptic incision into the tumor for diagnostic purposes, immediate examination by a competent microscopist of a portion of the tumor is advised, and a report can be obtained in 15 minutes as to its nature; if malignant, a complete operation must be done, otherwise only the tumor and its capsule need be removed. A clinical diagnosis based upon the history of the case—the macroscopic appearance of the tumor, its color, consistency, relation to surrounding structures, and the resistance it offers to the knife when sections are made through it—is scarcely less to be relied upon than the microscopic finding.

*Phila. Med. Jour., Oct. 28, 1899.

Infective Sinus Thrombosis —F. WHITING* considers chiefly the symptomatology and diagnosis of sinus thrombosis, and enumerates these elements in the relative order of frequency which characterizes their appearance in the different stages of this malady. The cause of sigmoid sinus thrombosis may be conveniently designated for the purposes of clinical classification as comprising three stages, characterized by local and systemic manifestations; the anatomic appearances of the sinus wall, the pathologic changes in the slot, and the sizes of circulatory obstruction may be denominated as local factors; while rapid and excessive fluctuations of temperature, frequently repeated rigors, peripheral or central metastoses, etc., embrace the essential systemic symptoms. The local and systemic conditions are enumerated, which constitute the various stages: 1. The presence of a thrombus, parietal or complete, chiefly composed of fibrin, red blood-cells, exfoliated endothelium, leucocytes and homogeneous protoplasmic cells, not having undergone disintegration and accompanied by slight or moderate pyrexia, rigors being usually insignificant or absent. 2. The presence of thrombus, parietal or complete, which has undergone disintegration, characterized by frequent rigors and pronounced septicopyemic fluctuations of temperature. 3. The presence of a thrombus, parietal or complete, which has undergone disintegration, with systemic absorbtion accompanied by rigors, rapid and great fluctua-

*Jour. Am. M. A., Oct. 28, 1899.

tions of temperature, and central or peripheral embolic metastases, terminating usually in septic pneumonia, enteritis, or meningitis. The diagnosis of sinus thrombosis in the first stage is, with rare exceptions, consequent on operation for mastoiditis. Recovery is still possible, though improbable, without operation on the sinus. In the majority of instances the diagnosis is made and surgical aid invoked in the second stage; the earlier the recognition the more favorable is the prognosis. If not diagnosed or if the patient declines to accede to operation, the characteristic manifestations of the third stage, with almost certain fatality, may confront the operator. The symptoms, in their relative order of frequency and importance, are rigors, fluctuations of temperature, the character of pulse and respiration, vertigo and vomiting, loss of consciousness, delirium. Among local signs is mentioned hemicrania, tenderness in the upper part of the posterior cervical triangle, edema of the occipital regions, moderate edema or puffiness of the eyelids of the corresponding side, intraocular inflammatory changes, usually taking the form of neuroretinitis, tenderness along the course of the internal jugular vein in the neck, absence of or slight turgescence exhibited on laying the finger with moderate pressure across the external jugular on the affected side. Until septic absorption has begun, the manifestations in the majority of cases are such only as characterize uncomplicated mastoid inflammations, and in no wise suggest intracranial complications. The factor chiefly concerned, not only in diminishing the statistic mortality, but in increasing the number of actual recoveries as well, will be a more comprehensive acquaintance with the symptomatology of the disease, which will result in early and accurate diagnosis.

A Day's Surgery in a Pennsylvania Hospital.—R. G. LE CONTE* reports briefly the cases and operations of one day at the hospital; only the first case had been previously arranged for that day; all the others were admitted during the day, and were of an emergency nature, requiring prompt attention. Case I. Necrosis of elbow joint; excision. Case II. Strangulated gangrenous femoral hernia; resection of bowel, end-to-end anastomosis; Bassini radical cure. Case III. Compound fracture at the ankle joint; excision of the internal malleolus. Case IV. Ruptured ectopic gestation; hysterectomy. Case V. Profuse hemorrhage following abortion; retained membranes; curettement and picking. Case VI. Peritonitis, probably of typhoid origin; no operation performed, and patient was transferred to medical wards, where he later developed typical typhoid stools, dicrotic pulse, and gave positive Widal reaction on two occasions. Case VII. Concealed Littre hernia of right femoral ring; abdominal section. A portion of small intestine was found drawn out like a cord and leading to the right femoral ring, where it was adherent. This adhesion was broken up, the peritoneal coat of the bowel remaining behind. The rest of the bowel resumed its normal appearance at once, and recovery was uneventful.

*Phila. Med. Jour., Oct. 28, 1899.

Detail in Cleft Palate Operation.—S. L. MCCURDY* describes some new instruments, and calls attention to some already in use. In all operations about the mouth or face the patient should be placed in the Murphy position, the operator sitting above the head; this position is best secured by the use of a head rest, which is placed at an angle of 45° to the plane of the body. Anesthesia is best produced by Fillebrown's method, which consists of delivering the anesthetic to the point through a small tube resting on the upper teeth; the anesthetic is forced through the teeth by a foot bellows. The various steps of the operation are described, with illustrations. The Davies Coley operation is to be preferred, since it avoids the exposure of a raw surface. A new needle has been devised, the curve of which brings the point back toward the handle, the curve being just great enough to carry the puncture back sufficiently far from the edge of the flap. Another instrument is also illustrated, which is necessary to complete the introduction of the suture skillfully. A self-retaining gag adds greatly to the convenience and assists in expediting the operation. Such a gag has also been devised, and is illustrated; a self-retaining tongue-depressor is attached to the gag.

Preparation of the Abdomen for Operation—HARRIS† divides his discussion of this important subject into three subdivisons. 1. The recognition of a cutaneous flora. 2. Preparation of the abdominal skin in cases of abdominal section. 3. A bacteriologic study of the cleansed skin of the abdomen in preparation for operation. After an exhaustive study of each of these, the following conclusions may be drawn: (*a*) It is impossible to sterilize the living skin. (*b*) Efforts at sterilizing even the superficial parts of the skin by methods used in the operating room are unsuccessful in most cases (and probably so in all cases). (*c*) The degree of sterilization of the cuticular layer of the abdominal skin, achieved by preparation for abdominal section, varies directly with the amount of cleansing done.

Removal of Tumor of Supra-Renal Capsule.—ROBSON‡ reports two cases in which he has successfully removed a tumor of the supra-renal capsule. In one the entire kidney had to be removed as well, but in the second only a wedge-shaped piece from the top of the kidney was removed with tumor. He gives the following symptoms, observed throughout

*Jour. Am. M. A., Oct. 28, 1899.

†American Journal of Obstetrics, Oct., 1899.

‡Therapeutic Gazette, Oct. 15, 1899.

several cases: 1. Shoulder-tip pain (very important). 2. Pain radiating from the tumor across the abdomen and to the back, not along the genito-crural nerve. 3. Marked loss of flesh. 4. Nervous depression, with loss of strength. 5. Digestive disturbance, flatulence and vomiting. 6. Presence of a tumor beneath the costal margin, right or left, at first movable with respiration, but soon becoming fixed. It can be felt posteriorly in the costo-vertebral angles. 7. Absence of urinary and of gall-bladder symptoms.

Osteotomy.—D. WILLARD* concludes a discussion of this operation as follows: 1. Osteotomy is one of the most simple, safe, and satisfactory of surgical procedures. 2. Its employment is indicated in many of the ankyloses of joints following rheumatic, inflammatory or tubercular conditions, when forcible straightening is impossible. It is also of service in the deformities following mal-union of fracture, and in the bending of bones resulting from rickets, congenital deficiencies, etc. 3. If aseptically performed, the injury to the tissues is less than in osteoclasis, and the resultant fracture becomes from the moment of closure of the wound only a simple one. 4. Wedge-shaped osteotomy is seldom necessary, even in exaggerated deformities, as a simple section is all that is necessary, the gap resulting from straightening being readily filled in with callus. 5. Plaster of Paris makes the best subsequent fixation splint.

Stricture of the Esophagus as a Complication and Sequel of Typhoid Fever.—J. E. SUMMERS† refers to the two cases of this rare condition reported, and adds the report of a third case coming under his observation, and operated upon by him by Abbe's method. At the beginning of convalescence from an attack of typhoid fever, the patient developed symptoms of stricture of the esophagus, which could be readily diagnosed. When seen, only a filiform whalebone bougie could be passed, and even fluids could with difficulty be swallowed. A median abdominal incision was made, and the stomach opened between two "guy-rope" sutures. A piece of heavy braided silk was passed in a retrograde fashion through the stricture by means of the filiform bougie. By a sawing motion the stricture was cut with the silk, grasped in the mouth with the left hand and in the stomach with the right, until a bougie, 16 F., could be drawn through. It was again sawed until a larger bougie could be passed, and the process continued till a 30 F. bugie passed easily. The wound in the stomach was then closed by a double continuous Lembert suture, and the abdominal incision sewed up. On the third day after the operation dilatation was begun, by means of bougies, and continued for several weeks, until the largest instrument passed without difficulty.

*Jour. Am. M. A., Oct. 28, 1899.
†Phila. Med. Jour., Oct. 28, 1899.

Practical Therapeutics.

Concerning the Demonstration of Arsenic in the Hair, Sweat, Urine, and Epithelial Scales, by Biologic Methods.—The fate of the arsenic administered in many skin diseases is a fact of great importance from a therapeutic point of view, whether the arsenic exercises a direct influence upon the skin or an indirect through the effect of arsenic on the nerves, or through changes in the blood itself. SCHOLTZ* treated dogs with arsenic and found traces of arsenic in the hair. A patient with psoriasis was treated by subcutaneous injections of arsenious acid, 0.003 to 0.02 per injection. The total amount of arsenious acid injected was 0.45. The scales were examined for evidences of arsenic. The examination was negative. The same result was obtained in a second case, where 0.6 of the arsenious acid had been injected. The test was made by the usual Marsh apparatus. The scales from the same patient were now examined by means of a new biologic test. This test consists in growing upon a media containing arsenic a mold, pencillum brevicaule. In its growth a gas containing arsenic is given off, which can be easily recognized by its odor. In 48 hours, in these two cases, which showed no traces of arsenic by the Marsh test, it was found to be present by the characteristic odor. Further experiments showed that arsenic in amounts as low as $\frac{1}{3000}$ to $\frac{1}{5000}$ mgr. could be detected by this method. As a control preparation, scales of a psoriatic patient, who had never received arsenic, were examined by this method. There was no characteristic odor given off. The urine and sweat of a patient who within six weeks had taken 0.5 grams of arsenic, the last dose of which was taken 14 days before, showed a definite and positive result.

Intestinal Antiseptics in Typhoid Fever.—PEARSON† takes up in detail each of the antiseptic treatments for typhoid and attempts to show the inconsistency and fallacy of the claims made for each. He concludes the following: Since the bacilli do not appear in the stools until the end of the second week, and in no case before the seventh day, the antiseptic treatment pure and simple is a failure All are agreed that the earlier the treatment is begun the better the results, and that the mortality is doubled after beginning the treatment after the fifth day. To check bacterial activity, as desired by the advocates of this plan, would be a disastrous interference with the normal processes in the bowels. No one has been foolish enough to claim that the so-called intestinal antiseptics can kill the pathogenic and spare

*Berl. klin. Woch., Oct. 16, 1899.
†Therapeutic Gazette, October 15, 1899.

the useful organisms. In treating typhoid it should be kept in mind that it is a systemic affection, a "typho-toxin," and not a local disease.

Beta-Eucain as an Anesthetic in Eye, Nose and Throat Work.—WILLIAM H. POOLE* presents the following conclusions: 1. Eucain is decidedly less toxic than cocain, therefore superior to it. 2. Its aqueous solutions keep well and can be sterilized by boiling without destroying the activity of the drug. 3. It produces anesthesia equally well and sometimes better than cocain. 4. It is superior to cocain in that it does not cause heart depression or other unpleasant effects. 5. It does not cause mydriasis or disturbances of accommodation, which is an advantage in some cases. 6. It is less dangerous to the cornea than cocain, inasmuch as it does not cause desquamation of the superficial epithelium.

Pyramidon, an Antipyrin Derivative. — W. FILEHNE. Pyramidon is a white, tasteless, crystalline powder, soluble in 10 parts of water. Its action on the nervous system is analogous to that of antipyrine, and the mechanism of temperature reduction is practically the same. It has, however, certain advantages over antipyrine. Smaller doses are required, its action begins more gradually, lasts longer, and leaves no ill effects. Its narcotic action is constant. The dose, which is from 3 to 8 grains for adults, can be given in solution without even the addition of corrigentia, since it is practically tasteless.

Clinical Notes on Digitoxin.—J. P. SAWYER† reports a number of cases in which digitoxin was used with marked results. He summarizes its advantages as being more prompt than digitalis; in sufficiently small doses as no more irritating than digitalis; efficient as a diuretic; so frequently successful when digitalis and other allied preparations have failed, that it would seem no case should be despaired of until the efficiency of this active principle has been tried. This promptly efficient action was seen throughout nearly the whole range of the indications for digitalis in chronic disease. Experience with its use in acute disease was not sufficient to warrant more than favorable notice. The remedy was given in doses of from $\frac{1}{500}$ to $\frac{1}{250}$ of a grain, two or three times a day, in capsules or tablets, and no symptoms of irritation in the stomach were seen.

A Few Remarks on the Therapeutic Efficacy of Heroin.—M. EINHORN‡ reports the results obtained from the use of heroin. He has given the remedy either in powder form or tablets, or heroin hydrochlorid in solution, giving 5 mg. ($\frac{1}{12}$ gr.) twice daily. In three out of four cases of pulmonary tuberculosis constant improvement (alleviation of cough) was obtained, while in one case the drug lost its beneficial effect in fourteen days. In five out of seven cases of asthma it diminished dyspnea and alleviated the cough, although in two of them potassium iodid was necessary in conjunction with the heroin. In two cases of chronic bronchitis improvement occurred in one instance and no result in the other. Amelioration occurred in two cases of cardiac lesions and slight dyspnea, while in a third case no effect was noted. In two cases of cancer, one of the cardia and one of the stomach, the pains were greatly alleviated. In a case of hyperesthesia of the stomach and chronic bronchitis the remedy acted well, but produced constipation, and in two cases of gastralgia decided amelioration took place. In a case of tabes dorsalis the exisiting gastralgia and enteralgia were much relieved. Except slight dizziness and occasional dryness of the throat, which were found rarely, no unpleasant symptoms were noted even from its prolonged use.

*Medical News, Oct. 21, 1899.
†Jour. Am. Med. Assn., Oct. 28, 1899.
‡Phila. Med. Jour., Oct. 28, 1899.

Palatable Quinine Mixture for Children.—W. J. GREANELLE* gives the details for the preparation of such a mixture which will be readily taken by children. It is designed as a tonic and malarial prophylactic for children living in malarious sections. It will serve for active medication in acute cases of malarial disease in children of three years or younger by giving the dose at hourly intervals:

1. ℞ Quinin hydrochlorate ..... gr. v-x.
   Alcohol ..... ℥i.
   M.
2. ℞ Oil of cinnamon .....
   Oil of anise ..... āā ♏xxx-xl.
   Magnesia ..... q. s.
   Water ..... ℥i.
   M. Let stand for some hours; filter.
3. Mix 1 and 2 and add:
   Simple syrup ..... ℥iij.
   Carmine or cochineal solution ..... gtt. v.
   Dose, one or two drams as directed.

Saccharin in small quantity helps to disguise the larger dose of quinine. Fowler's solution may be added if indicated, or sodium bromide for children made irritable by quinine.

New Synergistic Medication.—The Antikamnia Chemical Co. has put two new combinations upon the market which will be accorded popularity at once. The Antikamnia Laxative Tablets contain: antikamnia, gr. $4\frac{1}{4}$; cascarin, gr. $\frac{1}{8}$; aloin, ext. belladonna and podophyllin, each $\frac{1}{32}$ gr. The Antikamnia and Quinin Laxative Tablets have the formula, except that the amount of antikamnia is decreased to 3 grains and quinin bisulphate $1\frac{3}{4}$ grains added.

*N. Y. Med. Jour., Oct. 28, 1899.